

## SCULPTURED STOUP IN THE CATHEDRAL OF SIENNA.

We recently published an engraving of the font in the cathedral of Siena, and, in our present number, we give a view of a *benitier*, or holy-water stoup, in the same structure,—the work of Jacomo della Guercia. The sculptor may probably have designed to give the idea that the vase has been brought from above by the three eagles that support it. The interior of the vase, of which we give a plan on a smaller scale, is remarkable for having on it sculptured representations, in relief, of fish and lizards.

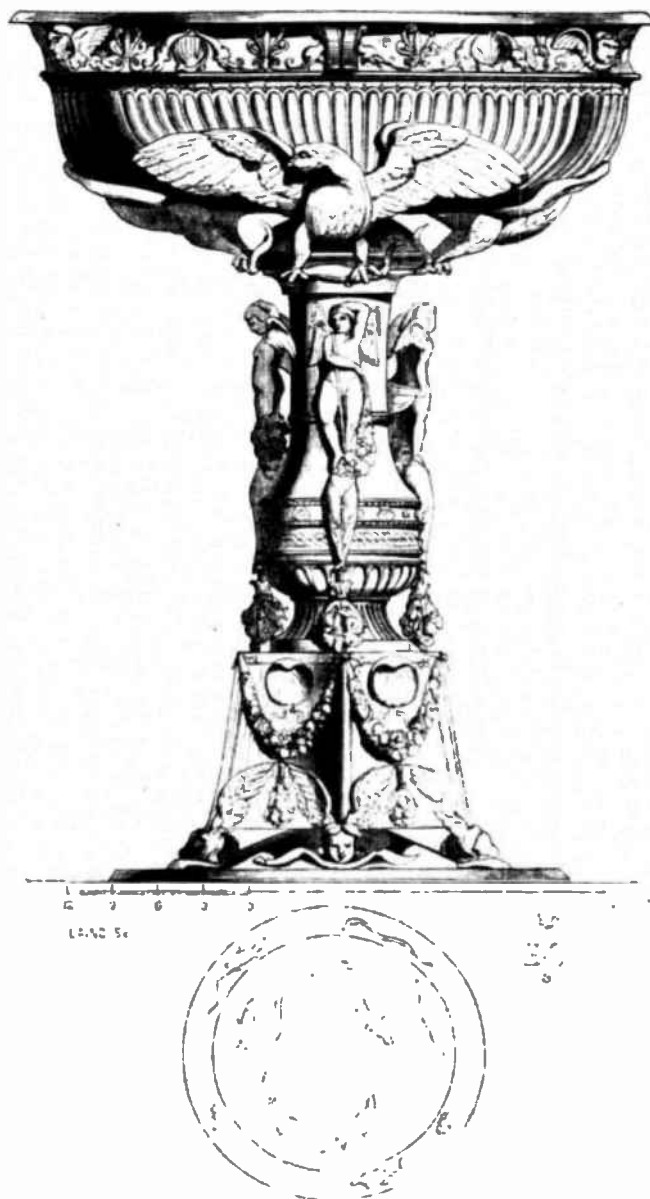
The height of the stoup and pedestal is 4 feet 10 inches; and the diameter of the basin, 3 feet 4 inches.

## NOTES ON GAS.

AN immense volume of natural gas, sufficient for the supply of a city, it is said, has just been discovered near Detroit, Michigan, while boring a four-inch shaft for water. At a depth of 70 feet a vein or cavity was struck, from which issued a violent current of air, throwing up stones as large as hen's eggs, 10 or 15 feet high, accompanied by a volume of water, rising 10 or 12 feet. On applying a light to the air it burnt furiously, the flames rising 20 feet. It is proposed, says the *New York Sun*, to conduct this gas in pipes to Detroit, and light that city with it.—It may not be known to many of our newer readers, though we have already slightly noticed the fact, that we have enormous jets of natural gas, for ever burning—almost altogether uselessly too—in our own country. There is one between Newcastle and Shields which at night forms one of the most singular and sublime sights we ever witnessed. Some additional information in regard to the projected company already noticed by us, for the conveyance of this apparently inexhaustible fountain of fire and light to Newcastle, &c., together with other particulars, have been communicated in reply to a question about a "Spontaneous Gas Company," erroneously supposed by a correspondent of the *Mining Journal* to exist in the Newcastle coal district:—"Spontaneous gas has been emitted from old colliery workings, midway between Newcastle-upon-Tyne and North Shields, for the last twenty years, to the extent of thousands of gallons every twenty-four hours. The gas is brought up from an old shaft by a tube of from 3 to 4 inches diameter, and has burnt night and day without interruption for the period mentioned. The flame illuminates the whole neighbourhood; and the stormiest weather appears to have no influence to extinguish it. Some years ago some gentlemen had obtained a grant of the gas, with a view to render it applicable for lighting, and had a gasometer made to collect and distribute it. The gas was conveyed to the Wall's End station, and used there for some time; but it was not considered sufficiently pure, as it came from the workings of the mines, for domestic use, and some of the parties dying, the scheme was not persisted in. There is no doubt that this spontaneous gas, by proper management in its purification, might be rendered useful to a large population, and would be remunerative to a company employing capital to introduce it; and, as it is found about midway between Newcastle and Shields, and near to the railway, the distance between these towns (8 miles) is no insuperable barrier to its conveyance to them both." Why, Newcastle might almost supply all its coal customers together, with the ready-made article, from the never-ceasing flow of nature's fountains there, especially since, if we mistake not, this is not the only mammoth jet which flows within the limits of its great coal district, where, at least in one other instance, we rather think the light is so far employed in lighting the works of the pit whence it issues.

While thus treating of gas on the great scale, and of nature's beneficent, inexhaustible, and perpetual supplies, we may observe that it has been calculated, on the patent mode of preparing it from animal refuse, and for the sake of other products besides the mere gas, that the consumption of butchers' meat in England alone yields 100,000 tons of bones, &c., annually, from which upwards of a million of gas-burners could be fed gratis! and

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that, of course, the mansions of the nobility and gentry, and the Royal palaces themselves, might be brilliantly illuminated, from ground-floor to attic, with their mere culinary refuse."

—The "Comptes Rendus," in announcing an improvement, by M. Mallet, on his mode of obtaining the complete purification of gas by a single operation, says, "the improvement consists in the simultaneous employment of a mixture of sulphate and oxide of lead applied to the gratings of the purifiers instead of lime. On the ammoniacal salts coming in contact with the sulphate of lead, a double decomposition takes place; sulphate of ammonia, and carbonate, sulphuret, and cyanoferruret of lead, are formed; and the free hydrosulphuric and carbonic acids combine directly with the oxide of lead. When the gas begins to mark either acetate of lead or litmus paper, the purifier must be replenished in the same manner as when using lime. M. Mallet describes, in his

\* It is said that on her Majesty's visit to Holyrood House, at Edinburgh, she expressed no little surprise and regret to find that wretched home of wretchedly illuminated in a style that far transcended all that her English palaces could boast of. Now, there is no sufficient reason why the metropolitan gas should not be made as pure, and as capable of general use, even in drawing-rooms and bed-rooms, as it is in Edinburgh, where it is prepared of the very coal—Newcastle—which is here so plentifully used.

memoir to the academy, a process by means of which he obtains and renews the mixture, and which possesses the advantage of furnishing an unchangeable purifying substance, provided the inevitable loss of matter be replenished with fresh sulphate of lead. One precaution must be taken to enable the sulphate and oxide of lead to retain their purifying properties as long as possible, which is to deprive the gas entirely of tar on reaching the purifiers; this may be easily done by passing it over one or more layers of finely divided substances, such as small coke, sawdust, &c."—Every new week now brings with it, in one quarter or other, some further reduction in the price of gas, in preparation for the ensuing winter's campaign. At Sculcoates, Myton, the Guardian Society have just screwed out of "The British" a further reduction to 5s. 6d. per 1,000 cubic feet. They wished to stipulate for a still further reduction to 5s. from July, 1849. The Gas Company, however, declined pledging themselves unconditionally, but it will probably turn out that they did so virtually, by promising that, "should the consumption materially increase (in consequence of the partial reduction in the meantime) they will gladly do so—at the first opportunity." On the